

## 16. SOME RARE AND ENDANGERED PLANT SPECIES OF GUJARAT, INDIA

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During an extensive survey on the floristic diversity of Saurashtra (2000-2003) some interesting and threatened plants of Gujarat, *Polygala irregularis* Boiss. Diag., *Lotus corniculatus* var. *minor* Baker, *Tephrosia jamnagarensis* Santapau, *Periploca aphylla* Decaisne and *Lepidagathis cristata* Wild were collected; of these the occurrence of *Lotus corniculatus* var. *minor* Baker is a new record to the flora for Gujarat hitherto not recorded from Gujarat sensu Santapau (1962), Shah (1978), and Bole and Pathak (1988). The details of the plants are as follows:

1. *Polygala irregularis* Boiss. (Polygalaceae)

While studying the flora of Sutrapada coastal Forest, Veraval, we collected and observed *P. irregularis* in isolated pockets. Cooke (1901) has stated "a rare plant, found in Sind and on coast of Kathiyawad, Gujarat". Whereas Shah (1978) refers to Saxton (no. 3273) collected from Ahmedabad, extremely rare. The plant is rare in the region and requires immediate attention.

**Flowering & Fruiting:** September-December**Present status:** Uncommon**Habitat:** Sandy open plains**Specimen examined:** BSI 115190, 94791, PSN-SAU 1028 (19.x.2001)2. *Lotus corniculatus* var. *minor* Baker (Fabaceae)

An interesting species of *Lotus* was observed while exploring the flora of Khijadiya Bird Sanctuary (on the bank of Jambuda Lake), Jamnagar. On critically examining the specimen, it was identified as *Lotus corniculatus* var. *minor* Baker. This is a dwarf form of *L. corniculatus* L.; recorded by Hooker (1876) from the plains of Sind with solitary flowers and fleshy leaflets 1/8 inch long. Cooke (1901) has stated the variety with solitary flowers and is confined to Sind only. The present observation extends the earlier known distribution of the species. There is no report of the species in the Flora of Gujarat (Shah 1978) and in that of Saurashtra (Thaker 1910; Santapau 1962; Santapau and Janardhanan 1966; Bole and Pathak 1988). Thus, to refer to its occurrence and habitat, the same has been accounted here (Fig. 1).

**Flowering & Fruiting:** September-November**Present status:** Endangered**Habitat and Ecology:** The plant was growing on the clayey and silty saline soil.**Specimen examined:** PSN-SAU 1039 (8.x.2001)3. *Tephrosia jamnagarensis* Santapau (Fabaceae)

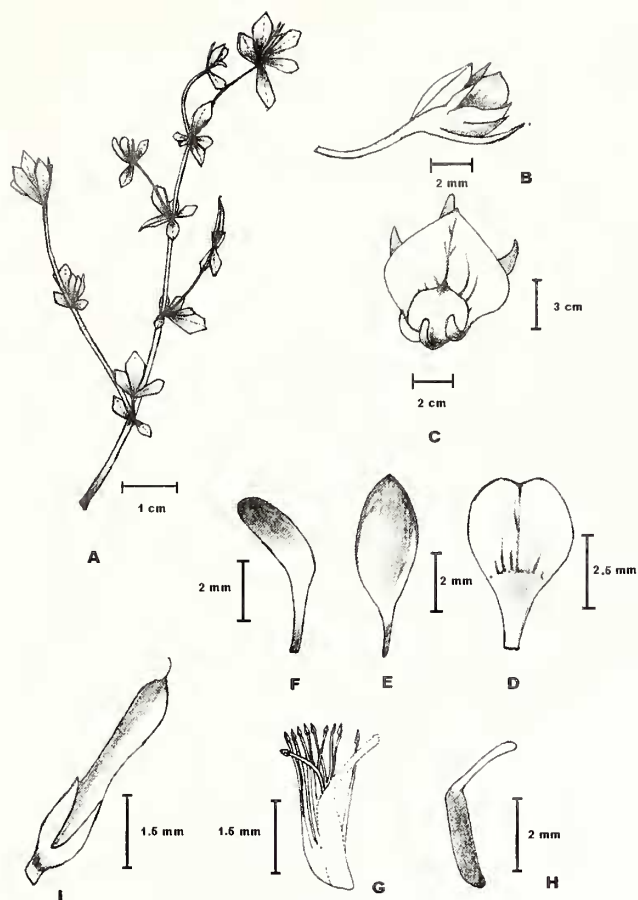
During a survey of the vegetation of Khad Khambhaliya *vidi* (Grassland), Lalpur, Jamnagar district, we observed an endangered and endemic plant species of Saurashtra *Tephrosia jamnagarensis* (Santapau 1958; Kothari and Hajra 1983; Shah 1983; Nayar and Sastry 1988) at the lower slopes of hillocks. The present collection forms the rediscovery of this very interesting taxon after a gap of almost three decades. Also, it reinstates the endemism of the species. The plants were observed on the gravel calcareous soil. The species is very rare and endemic to the region. A recent survey showed that the plant does not occur in the earlier stated regions or surroundings, moreover, is encroached by agriculture fields (Nagar 2000; Rao 2002). The rarity of the plant owes to overgrazing, habitat destruction, lack of protection, and probable other biotic factors.

**Taxonomic History**

The holotype was collected by Santapau for the first time near Rozi in Jamnagar, Gujarat on the October 16, 1945 and was deposited in the Blatter herbarium, Bombay (now Mumbai), India, under the type specimen Santapau 7522. Ahluwalia collected it on August 24, 1954, in flower buds from Victoria Bridge, Jamnagar (Santapau 1962). The specimen was last collected from Bharuch in 1972 (Vyas 1973; Shah 1978).

**Flowering & Fruiting:** September-November**Present status:** Rare in *vidi* (grassland)**Habitat and Ecology:** It grows usually on sandy loamy to gravel calcareous soil on the undulating slopes of the grassland.**Specimen examined:** H. Santapau: Jamnagar-7522 BLAT (16.x.1945), PSN-SAU 1058 (17.x.2001)4. *Periploca aphylla* Decaisne, (Periplocaceae)

This plant was located at the coastal belt of

Fig. 1: *Lotus* spp.

A. Habit; B. Flower with Pedicel; C. Flower; D. Vexillum; E. Wing;  
F. Keel; G. Stamens with Pistil; I. Fruit

Jamnagar. Only few individuals of the same were recorded from the area. Earlier the plant has been recorded from

Sind and Kutch (now Kachchh) area (Shah 1978). However, it is first observation to the flora of Saurashtra, Gujarat.

**Flowering & Fruiting:** August-October.

**Present status:** Endangered.

**Habitat:** Sandy and Saline.

**Specimen examined:** BSI 61964, 32876, PSN-SAU 1234 (8.x.2001)

##### 5. *Lepidagathis cristata* Wild (Acanthaceae)

The plant has been recorded for the first time from Shetrunjaya Hills, Palitana, Saurashtra. Earlier the plant was recorded from north Gujarat (Idar) on old walls of the fort and hilly slopes (Shah 1978).

**Flowering & Fruiting:** October-December

**Present status:** Uncommon.

**Location:** Shetrunjay Hills, Palitana, Bhavnagar district.

**Habitat:** Shade of scrubby vegetation in the slope and along the rocky riverine area.

**Specimen examined:** G.L. Shah: N.Gujarat-57062 BLAT (1978), PSN-SAU 1339 (31.x.2001).

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##### REFERENCES

- BOLE, P.V. & J.M. PATHAK (1988): Flora of Saurashtra. Part II & III. Botanical Survey of India, Calcutta. 545 pp.
- COOKE, T. (1901): The Flora of Bombay Presidency. Vol. I-III. BSI Calcutta. 649 pp.
- HOOKE, J.D. (1876): The Flora of British India. Vol 2, pp. 91.
- KOTHARI, M.J. & P.K. HAJRA (1983): Materials for a Catalogue of Threatened plants of India. Pp.45. Botanical Survey of India. Howrah.
- NAGAR, P.S. (2000): Biodiversity of the Barda Hills. Ph.D. Thesis. Saurashtra University, Rajkot.
- NAYAR, M.P. & A.R.K. SASTRY (1988): Red Data Book of Indian Plants. Vol. II. Pp. 133. Bot. Surv. India.
- RAO, V.R. (2002): An assessment of Endangered plants of Gujarat. Ph.D. thesis submitted to S.P. University, Vallabh Vidyanagar, Gujarat, India.
- SHAH, G.L. (1978): Flora of Gujarat. Part II. Sardar Patel University, Vallabh Vidyanagar.
- SANTAPAU, H. (1958): Addition and corrections to the Indo-Nepalese Flora. *Proc. Nat. Sci. Inst. India* 24B: 133. t. 1.
- SANTAPAU, H. (1962): The Flora of Saurashtra. Part - I (Ranunculaceae to Rubiaceae). Pp. 270. Saurashtra Research Society, Rajkot.
- SANTAPAU, H. & K.P. JANARDHANAN (1966): The Flora of Saurashtra (Check list). *Bull. Bot. Surv. India* 8: Supply. 1:1-58.
- SHAH, G.L. (1978): Flora of Gujarat. Part I. Pp. 248. Sardar Patel University, Vallabh Vidyanagar.
- SHAH, G.L. (1983): Rare species with restricted distribution in South Gujarat. Pp. 50-54. In: S.K. Jain & R.R. Rao. (Eds): An assessment of Threatened Plants of India. Bot. Surv. India, Calcutta.
- THAKER, J.I. (1910): Vanaspati Sastara - Barda Dungalni Jadibuti tani Pariksha anae Upyog. (Botany - A complete and Comprehensive Account of the Flora of Barda Mountain (Kathiawad). Gujarati Printing Press. Bombay. Pp. 717.
- VYAS, K.J. (1973): Contribution to the floristics and phytosociology of the river Narmada in Gujarat State. Ph.D. Thesis submitted to S.P. University, Vallabh Vidyanagar, Gujarat.

